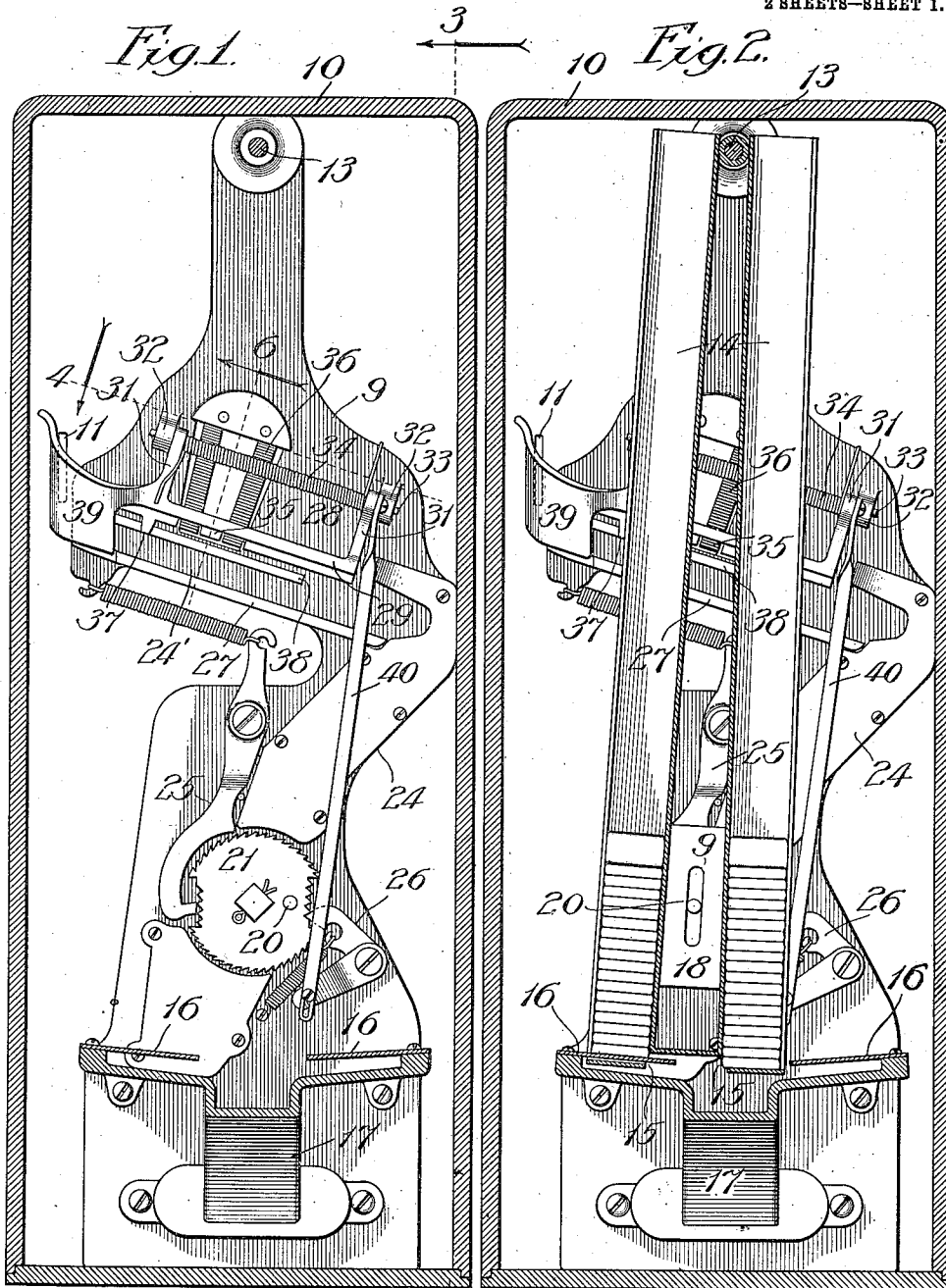


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 COIN CHUTE MECHANISM FOR VENDING MACHINES.
 APPLICATION FILED MAR. 18, 1909.

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Patented Dec. 28, 1909.

2 SHEETS—SHEET 1.



Witnesses:

John Enders
 Chas. A. Bull.

Inventor:

Mortimer B. Mills.

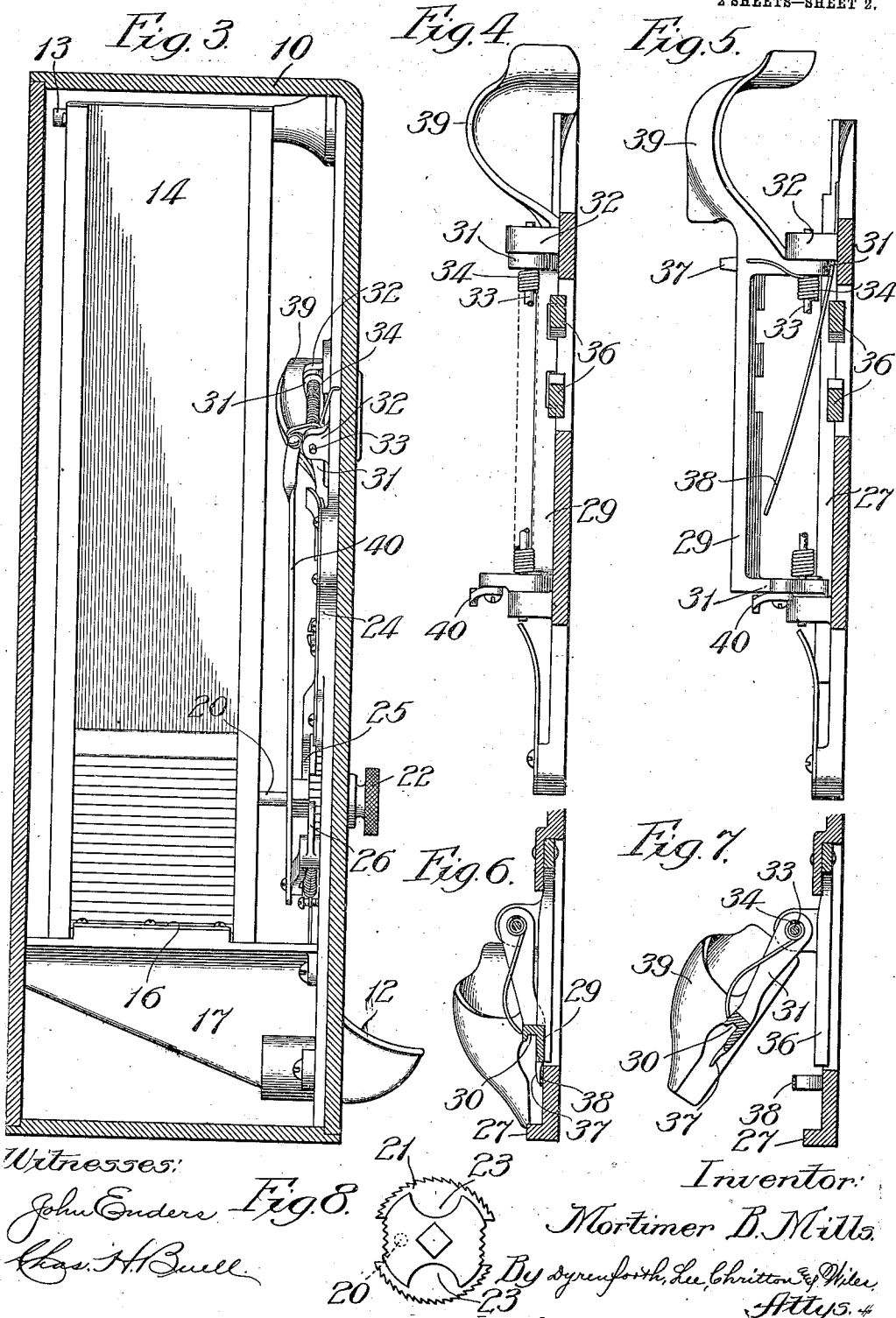
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UNITED STATES PATENT OFFICE.

MORTIMER B. MILLS, OF CHICAGO, ILLINOIS, ASSIGNOR TO ZENO MANUFACTURING COMPANY, OF CHICAGO, ILLINOIS, A CORPORATION OF ILLINOIS.

COIN-CHUTE MECHANISM FOR VENDING-MACHINES.

944,983.

Specification of Letters Patent. Patented Dec. 28, 1909.

Application filed March 18, 1909. Serial No. 484,297.

To all whom it may concern:

Be it known that I, MORTIMER B. MILLS, a citizen of the United States, residing at Chicago, in the county of Cook and State of Illinois, have invented a new and useful Improvement in Coin Chute Mechanism for Vending-Machines, of which the following is a specification.

My invention relates to improvements in mechanism of the class employed in coin-operated vending-machines for preventing fraudulent operation of the machines and clogging of the coin-chutes.

While my improvements are designed to be used with the coin-actuated mechanism of vending-machines, and the like, generally, I have especially devised them to cooperate with the construction of such a machine shown and described in my Letters Patent, Serial No. 918,886, dated April 20, 1909; and I therefore illustrate them in that connection in the accompanying drawings.

Referring to the drawings:—Figure 1 shows my improved mechanism by a view in rear elevation, in a case shown in section. Fig. 2 shows the same, but with the delivery-mechanism in the opposite position to that in Fig. 1 and with the two-compartment magazine in section. Fig. 3 is a section on line 3, Fig. 1. Fig. 4 is a section on line 4, Fig. 1, showing the coin-chute gate in normal condition, and Fig. 5 is a similar view of the same, but showing the coin-chute gate in its opened condition. Fig. 6 is a broken section on line 6, Fig. 1, showing the convolute pocket on the gate in its closed condition, and Fig. 7 is a similar view of the same but with the gate open. Fig. 8 is a rear view of the mutilated pinion of the gate-actuating and delivery mechanisms.

All the mechanism may be provided, as shown, on a back-plate 9, presented as a single casting, fitting within a suitable case 10, provided in its front side with a vertical coin-insertion slot 11 and in the same side, near the base of the case, with a delivery-opening leading to a receiving-dish 12. On a rod 13 extending horizontally from the upper end of the plate 9 is pivotally hung a two-compartment magazine 14, with the lower ends of its legs containing transverse openings 15 and registering with stationary pusher-fingers 16, 16, whereby when the magazine is swung in either direction the

lowermost article in the stack within the respective compartment will be forced by the adjacent finger out of the magazine to drop into a delivery-chute 17 to enter thence the dish 12.

The magazine-legs are joined toward their lower ends by a web 18 containing a vertical slot 19 in which works a stud 20 projecting eccentrically from a mutilated pinion 21 journaled at its center on the plate 9 and carrying on the outer face of the case a knob 22 forming the operating handle. The pinion is provided on one face with diametrically-opposite arc-shaped coin-receiving pockets 23, 23, (Fig. 8) each adapted to register, by a half-turn of the pinion, with the discharge end of the coin-chute 24. A spring-pressed detent 25 extends across the path of a coin received from the chute into a pocket 23 and rotated with the pinion, this detent engaging one mutilated section of the pinion, the opposite mutilated section thereof being engaged by a spring-pressed detent 26. Thus, with the parts in the position in which they are represented in Fig. 1, the pinion may be turned freely, by turning the knob toward the right, until the detent 25 is encountered by the upper end of the mutilated pinion-section which it engages; and further turning of the pinion with a coin in one of its pockets, causes the coin to engage that detent and forces it out away from the pinion to permit the latter to make a half-turn, at the end of which the detent 25 engages the other mutilated pinion-section, and the coin discharges from the pocket into the bottom of the case, and the stud 20 is caused by the rotation of the pinion to swing the magazine to the position represented in Fig. 2, to effect delivery from the base of the stack within it of one article by the encounter thereof with a finger 16. All the parts thus described and their operation are the same as set forth in my said allowed application.

The upper section 24¹ of the chute 24 inclines across the back of the plate 9 from near the coin-slot 11, this section being formed by a mere base-rail 27, for a coin to roll along, and the lower end or rail of a gate 28. This gate comprises a rail 29 containing a longitudinal coin-confining recess 30 in its under side and provided on its ends with similar upwardly projecting arms 31,

31, through which, and through lugs 32 on the back-plate, a rod 33 passes to hinge the gate; and the rod is surrounded by a spring 34 with one of its ends engaging the gate and the other the plate to render the gate spring-closed. On the gate-rail 29 is a stripper-finger 35 normally located between the poles of a horseshoe-magnet 36 at one side of the path through the chute. A lug 37 projects from the gate-rail 29 to overlap a leaf-spring 38 fastened at its end nearest the slot 11 and extending along the base of the chute against which the gate, when closed or in its normal condition, holds it flatwise against springing outwardly toward its free end. On one end of the gate and coincident with the slot 11 is a pocket 39 of convolute form opening at its base to the adjacent end of the chute-section 24¹. The detent 26 is in the form of a bell-crank having one arm connected with one end of a link 40, the opposite end of the link having a crank-connection with an end of the hinge-rod 33.

Each time a proper coin is introduced through the slot 11 to roll down the chute and lodge in a pocket 23, turning the knob 22 will operate the machine. It will be observed that the initial turning of the knob is lost-motion so far as affecting the detent 25 is concerned, and until it is encountered by the upper end of the respective recess in the pinion; but such turning causes the pinion to turn the bell-crank 26 on its fulcrum, thereby, through the medium of the link 40, opening the gate from its normal position, represented in Figs. 4 and 6, to that represented in Figs. 5 and 7. If a spurious coin of magnetic metal is inserted into the coin-slot in an attempt to operate the machine, in rolling down the chute-section 24¹ it will be arrested by the attractive force of the magnet 36 and the undertaking to operate the machine by turning the operating-handle will, by opening the gate, cause the stripper 35 to force the spurious coin out of the magnetic field and dislodge it. Opening the gate also releases the spring 38, to permit it to spring outwardly and by its resilient force supplement the stripper in its dislodging action. This supplement to the stripper is required where a fraudulent operator manipulates the handle 22, as he may by working it, to effect separation of the spurious coin from the magnet-poles sufficiently to cause it to roll down the chute and operate the machine, but the supplementary action of the spring 38 insures throwing the coin out of the chute.

The pocket 39 is another important feature of my invention. A proper coin inserted into it through the slot 11 is caused by the convolute shape of the pocket to turn in it and roll through the outlet therefrom into the chute. This shape of the pocket would prevent a lead disk from so rolling, so that

it would present its flat side to the outlet from the pocket and thus fail to operate the machine. The pocket also intercepts paper, pieces of wood, as tooth-picks, and other material often used in attempts to fraudulently operate the machine. All matter thus intercepted is prevented from clogging the machine by opening the gate, which effects dislodgment of such matter.

What I claim as new and desire to secure by Letters Patent is—

1. In coin-chute mechanism for vending-machines, the combination of a coin-chute, a self-closing gate cooperating with said chute, a coin-receiving pocket on the gate opening to the chute and provided with an inner convolute coin-deflecting surface, and means for opening said gate to release the contents of the pocket and chute.

2. In coin-chute mechanism for vending-machines, the combination of a coin-chute, a self-closing gate cooperating with said chute and provided with a base-flange overhanging the path through the chute, a coin-receiving pocket on the gate opening to said chute and provided with an inner convolute coin-deflecting surface, and means for opening said gate to release the contents of the pocket and chute.

3. In coin-chute mechanism for vending-machines, the combination of a coin-chute, a self-closing gate cooperating with said chute, a pocket on the gate at the entrance to said chute having a convolute interior surface leading from its receiving end to its outlet end at the chute-entrance, and means for opening said gate to release the contents of the pocket and chute.

4. In coin-chute mechanism for vending-machines, the combination of a coin-chute, a self-closing gate cooperating with said chute, a coin-receiving pocket on the gate opening to the chute and provided with an inner convolute coin-deflecting surface, means for opening said gate to release the contents of the pocket and chute, and coin-released locking-means cooperating with said gate-opening means.

5. In coin-chute mechanism for vending-machines, the combination of a coin-chute, a spring-closed gate supported to swing relative to and cooperate with said chute, a coin-deflecting receiving-pocket on the gate opening to the chute, a rotatably supported ratchet-wheel provided with a handle, a spring-pressed bell-crank pawl engaging said wheel, and a link connecting said pawl with the gate to open it by turning said handle.

6. In coin-chute mechanism for vending-machines, the combination of a coin-chute, a spring-closed gate supported to swing relative to and cooperate with said chute, a coin-deflecting receiving-pocket on the gate opening to the chute, a rotatably supported multi-

lated ratchet-wheel provided with a handle
and containing a coin-recess normally regis-
tering with the chute-outlet, a spring-pressed
pawl engaging said wheel, a connection be-
5 tween said pawl and gate for releasing the
pawl and opening the gate by turning said
handle, and a spring-pressed detent nor-

mally engaging the mutilated section of said
wheel and extending adjacent to the dis-
charge-end of the chute.

MORTIMER B. MILLS.

In presence of—

K. M. CORNWALL,

L. G. KIRKLAND.